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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,524	10/30/2003	Toshihisa Hayami	10973-109001	8153
26211	7590	09/20/2005	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			NGUYEN, TAI T	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/697,524

Applicant(s)

HAYAMI, TOSHIHISA

Examiner

Tai T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 5,511,161) in view of Wittmeier et al. (US 6,635,528).

Regarding claim 1, Sato et al. disclosed an apparatus comprising:

a sub-control circuit (e.g. any one of 4-6) for controlling a motor (M);

a main control circuit (3) for sending out to the sub-control circuit (4-6) a control signal to control the motor;

wherein the sub-control circuit comprises a power-on resetting circuit (9, figure 5 and lines 8-9 and 17-18 of the abstract and col. 3, lines 2-3 and 30-31) for implementing a reset by switching on and off a power supply (col. 3, lines 25-32);

wherein the main control circuit (3) comprises power supply control means (8) for temporarily cutting off the supply of power to the sub-control circuit (4-6) when the main control circuit (3) detects an abnormality in the sub-control unit (lines 11-17 of the abstract and col. 3, lines 35-45); and

Wherein the main control circuit periodically transmits and receives information between itself and each sub-control circuit. When the main unit detects that sub-control

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circuit or subunit has run away (abnormal), power shut off means cuts off the power supply to the subunit or sub-control circuit (col. 3, lines 39-44 and lines 14-17 of the abstract). Therefore, obviously the main unit will continuously make the power supply control means to maintain the power supply cut off state as long as the run away state is detected.

Sato et al. disclose the instant claimed invention except for an optical axis direction changing means for changing the direction of a light-emitting optical axis of the headlamp of the vehicle. However, it is well recognized in the art that an Adaptive Front-lighting System (AFS) motors are used to change the illumination direction of the headlamps of a vehicle. As Sato et al. do not limit their apparatus to any particular applications, it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the apparatus of Sato et al. to drive or change the illumination direction of a vehicle headlamps. One of ordinary skilled in the art would have been motivated to do this because it eliminates certain lines connections (col. 1, lines 52-53), provides cheap construction (col. 2, lines 13-15), and minimize the influence on the whole system (col. 5, lines 4-12). Once the apparatus of Sato et al. is used for driving the rotation of a vehicle headlamp by the motor (M), the claimed optical axis direction changing means for changing the direction of a light-emitting optical axis of a headlamp of a vehicle is met by the motor M of the apparatus of Sato et al, the sub-control circuit for controlling the optical axis direction changing means is met by any one of subunits 4-6 (sub-control circuit) since it controls the motor M (direction changing means), and main control circuit for sending out to the sub-control circuit a control signal

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for changing the direction of the optical axis of the headlamp is met by the main control circuit (3) which sends out control signals to the subunits (any one of 4-6) which in turn controls the motor M (direction changing means). Wittmeier et al. teach a motor vehicle headlight assembly having an optical axis direction changing means in the form of a motor (9) for changing the direction of a light-emitting optical axis (5) of a headlight of a vehicle (figures 1-2, col. 8, lines 6-65). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the optical axis direction changing means as taught by Wittmeier et al. in the system as disclosed by Sato et al. for the purpose of changing the direction of the headlight in response to a control signal generating from a control unit upon an activation from a driver of the vehicle in order to change from low beam to high beam.

Sato et al. disclose the instant claimed invention except for the sub-control circuit being integrated on the headlamp. However, as taught by Wittmeier et al., mounting electrical circuit (10) on a vehicle headlamp (1) is extremely well known in the art. Based on this teaching, it would have been obvious to a person of ordinary skill in the art at the time of the invention to mount a subunit (sub-control circuit) of Sato et al. on each vehicle headlamp as taught by Wittmeier et al. in order to simplify in construction (col. 2, lines 25-28 of Wittmeier et al.) and provide readily access for repair.

Regarding claims 3 and 5, Sato et al. disclosed that the CPU of the main control circuit (3) sends chip selection signals to select a CPU of a subunit to be communicated (col. 4, lines 50-57). The selection signals can be considered as a "request" since the select signals select a subunit for communication, therefore, it is in a way of requesting

one of the subunits 4-6 for communication. As disclosed by Sato et al in col. 3, lines 39-41, information is transmitted and received between the main control circuit and each of the subunits 4-6 via communication lines (e.g., serial type communication line (col. 3, line 41) or parallel type communication lines or bus (col. 4, lines 53-55)). Therefore, when the selection signals select one of the subunits for communication, the selected subunit will receive and transmit information from and to the main unit 3, the information sent to the main unit can be considered as a "reply". Consequently, the selection signals can be considered as "request-a-reply signal". As disclosed in col. 3, lines 43-45, when the CPU of the subunit runs away (abnormal), the communication is interrupted. When the communication is interrupted, no appropriate reply signal can be received by the CPU1 of the main unit. In response to this runs away (abnormal condition) of the CPU2 of the subunit, the CPU1 of the main unit cuts off the power supply to the subunit through the power shut-off means (power supply control means) (lines 14-17 of abstract). Note, the power supply control means is for cutting off the supply of power to the sub-control circuit or subunit, therefore, when the power supply control means is activated, it means activating the shutting off of the power supply.

Regarding claims 4 and 6, although Sato et al. do not specifically disclose activating the power supply control means (or activating the power shutting off means) when a reply signal is received from a subunit without requesting by the main control unit, it is a good indication that there is something wrong with the subunit when the subunit sent out a signal or some signals for which the main unit did not request or ask for. Therefore, it would have been obvious to a person having ordinary skill in the art at

the time of the invention to activate the power supply control means (or activating the power shutting off means) in order to provide safety when the main unit receives a signal for which it did not request for since it is a good indication of a likelihood of something is wrong with the subunit.

Regarding claim 7, although the combination of Sato et al. and Wittmeier et al. does not disclose the optical axis is reset to an initial position when the power supply is maintained in cut off state, examiner takes Official notice that it is well known that electrical apparatus always return to its initial position when there is a power failure (for example, a computer). Therefore, it would have been obvious to have the combination apparatus of Sato et al. and Wittmeier et al. to return to its initial position when the power supply maintained in cut off state in order to provide safety.

Regarding claim 8, if it is not inherent, it would have been obvious to change the direction of the headlamp of a vehicle in according to the steering angle of the steering wheel of the vehicle in order to properly provide illumination for the vehicle in the direction of traveling. Otherwise, it defeats the purpose of the headlamp.

Regarding claim 9, the modified apparatus of Sato et al. does not disclose that the direction changing means and sub-control circuit are integrally accommodated as a single unit. However, Wittmeier et al. further disclosed that the motor 9 (direction changing means) and control circuit (10) are integrally accommodated as a single unit (1). Based on this teaching, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have the subunit 4-6 (sub-control circuit) and motor M (direction change means) in a simple and compact construction (col. 2,

lines 25-28 and Wittmeier et al.) for saving space and to provide readily access for repair.

### ***Response to Arguments***

3. Applicant's arguments filed June 13, 2005 have been fully considered but they are not persuasive.

Applicant argues that there is no separate control unit to control the control unit (10) of Wittmeier et al., thus the combination of Sato et al. and Wittmeier et al. would require the additional of another control unit, resulting in a more complicated apparatus. Examiner does not agree. The rejection of claim 1 above, examiner just use the teaching of Wittmeier et al. that the control unit being integrated on the headlamp to mount the sub-control circuit of Sato et al. on each vehicle headlamp for the purpose to simplify the circuit construction and provide readily access for repair, thus the combination of Sato et al. and Wittmeier et al., as rejected above, is proper.

Applicant argues that the claim 1, as amended, recites the main control unit cause the power supply control means to continue to maintain the power supply cut off state when the main control unit repeatedly detects an abnormality in the sub-control circuit after the power supply is activated. Examiner believes that Sato et al. disclose the main control circuit (3) comprises power supply control means (8) for temporarily cutting off the supply of power to the sub-control circuit (4-6) when the main control circuit (3) detects an abnormality in the sub-control unit, see abstract and col. 3, lines 35-45.



***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

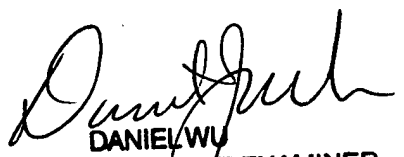
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai T. Nguyen whose telephone number is (571) 272-2961. The examiner can normally be reached on Monday-Friday from 7:30am-5:00pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 14, 2005  
Tai T. Nguyen  
Examiner  
Art Unit 2632

  
DANIEL WU  
SUPERVISORY PATENT EXAMINER  
9/17/05